

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Request of PTC-220, LLC for Waivers of)	WT Docket No. 08-256
Certain 220 MHz Rules)	
)	
Construction Progress Report)	

To: Chief, Wireless Telecommunications Bureau

**PTC-220, LLC
CONSTRUCTION PROGRESS REPORT**

I. INTRODUCTION

PTC-220, LLC (“PTC-220”) submits this Construction Progress Report to satisfy the requirements of paragraph 16 of the Memorandum Opinion and Order (“*2009 Waiver Order*”) adopted by the Federal Communications Commission (“FCC”) on June 25, 2009.¹ This Report details the progress made during the past six months in implementing the Systemwide Build-out Plan (the “Build-out Plan”) submitted by PTC-220 on November 1, 2010 in the above-referenced docket. The Build-out Plan explained how PTC-220’s 220 MHz licenses (“Licenses”) would be used in deploying a nationwide positive train control (“PTC”) system, as required by Federal statute.² The construction of the Licenses will be undertaken in large part by each of PTC-220’s

¹ *Request of PTC-220, LLC for Waivers of Certain 220 MHz Rules*, Memorandum Opinion and Order, 24 FCC Rcd 8537 (2009).

² In October 2015, Congress extended the PTC implementation deadline from December 31, 2015 to December 31, 2018. *See* Positive Train Control Enforcement and Implementation Act of 2015, Pub. L.

member railroads,³ although PTC-220 will also coordinate construction activities by non-member railroads.

II. SITE BUILD-OUT ACTIVITY

Since the May 2, 2016 Report,⁴ PTC-220's member railroads have continued to build new or prepare existing base station sites and install base station radios. As before, preparatory work at existing sites includes, among other things, coverage predictions, design and installation of antenna systems, upgrading of site power systems, site pre-wiring, and backhaul design. The table below indicates the progress to date for each PTC-220 member railroad, by state, for base station site preparation and base radio installations. Some of the installed radios are being actively used in various field testing programs, while others are currently powered off, awaiting final frequency coordination. PTC-220 notes that a change in the Federal Railroad Administration's ("FRA's") PTC implementation requirements has had the effect of reducing the total quantity of track that must be covered by PTC. As a result, some of the individual state totals below show a decrease compared to the May report. Despite this, the gross number of radios deployed nationwide has continued to increase.

No. 114-73 § 1302, 129 Stat. 568 (2015) ("*2015 PTC Act*"); 49 U.S.C. § 20157(a)(1). In light of the new statutory deadline, PTC-220 in December 2015 filed requests for a further extension of its substantial service deadlines until December 31, 2018. The FCC granted these requests in March 2016.

³ PTC-220's members are BNSF Railway ("BNSF"), Canadian National Railway ("CN"), Canadian Pacific Railway ("CP"), CSX Transportation ("CSX"), Kansas City Southern Railway ("KCS"), Norfolk Southern Railway ("NS"), and Union Pacific Railroad ("UP").

⁴ *Request of PTC-220, LLC for Waivers of Certain 220 MHz Rules*, PTC-220, LLC Construction Progress Report, WT Docket No. 08-256 (October 30, 2015).

State	BNSF		CN		CP		CSX		KCS		NS		UP	
	Site Prep	Radio	Site Prep	Radio	Site Prep	Radio	Site Prep	Radio	Site Prep	Radio	Site Prep	Radio	Site Prep	Radio
AL	4	4	2	0			44	42			44	44		
AR	7	7							9	8			28	28
AZ	21	20											10	10
CA	41	39											110	110
CO	20	20											13	13
FL							18	16			2	2		
GA							32	26			40	40		
IA	26	25	12	0	24	24							25	25
ID	5	5											24	24
IL	42	41	34	27	6	5	16	12			23	23	51	51
IN			3	1			43	40			28	28		
KS	38	37							3	2			33	33
KY			4	4			76	67			14	14		
LA	6	5	7	6			1	1	21	17	2	2	21	21
MA							12	11						
MD							38	38			3	3		
MI			18	0			5	4						
MN	35	34	10	4	26	17							3	3
MO	40	40			7	7			9	9	7	7	32	32
MS	3	3	25	12			3	3	6	1	11	11		
MT	68	67												
NC							44	42			20	20		
ND	54	53			15	14								
NE	32	32											40	40
NJ							4	4						
NM	16	16											14	14
NV													56	56
NY					13	13	43	41			3	3		
OH			1	0			51	46			22	22		
OK	26	26							6	6			9	9
OR	2	2											81	81
PA							53	48			32	32		
SC							47	46			22	22		
SD	10	7												
TN	2	2	5	5			67	66			26	26	1	1
TX	64	53							18	1			123	123
UT													40	40
WA	53	52											13	13
WI	3	3	28	19	14	14							14	14
WV							88	82			9	9		
WY	1	1											27	27
VA							49	46			31	31		
Total	619	594	149	78	105	94	734	681	72	44	339	339	768	768

Totals	
Site Prep	Radio
2,786	2,598

In addition to the base station deployment programs, PTC-220 member railroads are installing mobile radios in their locomotive fleets.

III. SPECTRUM

As previously reported, the two different PTC technologies, I-ETMS (used by freight railroads) and ACSES (used by passenger railroads) have the potential to desensitize each other's receivers, creating harmful interference when the two systems are operated in close geographic and spectral proximity. PTC-220 has identified greater Philadelphia and New England as the two areas along the Northeast Corridor where this interference scenario is predicted to be a serious problem. In an effort to resolve this interference issue, PTC-220 has been actively pursuing the acquisition of additional spectrum in these areas that could be used to provide for greater spectral separation between the two systems.

Philadelphia Area. In January, PTC-220 consummated the acquisition of 218 MHz Service license KIVD0007 covering portions of the Philadelphia area. However, this license does not cover all of the needed counties; the spectrum for those counties is held in the FCC's inventory. Therefore, in March PTC-220 submitted an application for license modification, requesting that 250 kHz of the spectrum from KIVD0007 be exchanged for 250 kHz of spectrum from the FCC's inventory covering the additional counties. FCC staff later requested an amendment to the application, including a letter of support from the Southeastern Pennsylvania Transportation Authority ("SEPTA"), one of the commuter rail entities that will benefit from the proposed license modification. The requested amendment was filed on October 5, 2016. The application is currently pending.

New England. Substantial progress has been made in the past six months towards resolving the spectrum issues in New England. PTC-220 has entered into an agreement to purchase 217 MHz (AMTS) spectrum in the relevant areas and has submitted an application for FCC approval of that transaction. PTC-220 has also reached an agreement to clear the incumbent licensee from that spectrum. Both transactions are subject to court approvals given the current status of the licensees. There are still a number of steps remaining to resolve the potential interference problem, including reaching agreements with the commuter and passenger railroads in the affected areas, so the PTC implementation schedule in New England could still be impacted if there are any unexpected complications.

Non-Member Spectrum Leases. PTC-220 currently has active spectrum manager leases with several non-member railroads including CalTrain, MetroLink, North Country Transit District, Metra and Sound Transit. In addition, Amtrak, Conrail, and Metro North have signed testing leases. PTC-220 is in active leasing negotiations with four other non-member railroads, and PTC-220 anticipates future negotiations with an additional eight railroads. Some short-line railroads may also need a long-term spectrum lease, depending on the PTC requirements of their owned track.

IV. INTERNATIONAL CROSS-BORDER SPECTRUM ARRANGEMENTS

PTC-220 continues to work with the FCC's International and Wireless Telecommunications Bureaus to ensure that PTC can operate without undue limitation along the nation's international borders. As previously noted, the new arrangement with Canada was an important accomplishment that provides certainty for PTC deployments along the northern border. During the past six months, however, there has been limited progress regarding the situation along the southern border, and a new agreement that would allow deployment in the

Mexico border region still remains to be finalized. While the Commission and the *Instituto Federal de Telecomunicaciones* (“IFT”) seem to have reached an agreement in principle on the merits of cross-border frequency sharing in the 220 MHz spectrum, unrelated diplomatic matters between the two sovereign governments appear to have prevented finalization of an agreement.

The continued inability of the two administrations to reach a cross-border arrangement for the 220 MHz band has begun to frustrate PTC deployment in the Mexican border region. For example, PTC deployment on ten different Union Pacific (“UP”) subdivisions has been halted, representing a significant portion of its rail network. In most cases, sites have already been constructed, but radios cannot be activated under the terms of the existing arrangement with Mexico. These subdivisions have already been moved to the end of UP’s deployment schedule awaiting resolution of the agreement with Mexico. Even under this revised schedule, one subdivision is slated to go online in March 2017, with several others following in June. Similarly, more than half of Kansas City Southern Railroad’s (“KCS’s”) Laredo subdivision falls within the border region (*i.e.*, within 120 kilometers north of the Mexican border). KCS is scheduled to start testing its PTC operations in the Laredo subdivision in January 2017. UP and KCS need the ability to activate the equipment and resolve any interference issues well ahead of the planned deployment dates.

It is important that the process of finalizing a US-Mexico cross-border arrangement proceed expeditiously so that PTC construction near the border is not further delayed. Because PTC-220 cannot be sure that this issue will be resolved in the next few weeks, PTC-220 is preparing a request for special temporary authority to allow operations near the Mexican border until the new agreement is in effect.

V. CONCLUSION

During the past six months, PTC-220 has continued to focus on resolving the final spectrum issues along the Northeast Corridor. Two applications related to these issues have been filed with the FCC and are pending; other applications are expected in the coming months. All railroads in the affected areas must cooperate to resolve the potential interference issues, so it is not yet clear whether there will be implementation delays in these areas. PTC-220 has also continued to endorse and monitor a new arrangement with Mexico governing the 220 MHz band along the border region. PTC-220 is concerned that the border arrangement has not been finalized due to diplomatic issues between the two countries, and will shortly be seeking interim operating authority in order to prevent further deployment delays in this area.

Respectfully submitted,

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